

LIFELONG LEARNING IN RETIREMENT AT THE HIGHLANDS

FALL 2019 COURSE DESCRIPTIONS UPDATED 5-28-19

REGISTER EARLY

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(Courses, times, and locations are subject to change.)

MONDAYS

BIOSPHERE 2 - HISTORY, RESEARCH, EDUCATION OVERVIEW

Date: Monday, Oct. 21, 2019 11:00 – 12:00 pm Catalina 2

COURSE DESCRIPTION: Dr. Kevin Bonine will present in detail the Biosphere 2 history, research, and education overview.

WHY ATTEND? Learn what this one-of-a-kind UA research facility tells us about how Earth systems function and what we might expect in response to changes in climate.

PRESENTER BIOGRAPHY: **Dr. Kevin Bonine, Director of Education and Outreach, Biosphere 2.** He attended the University of Arizona as a 1990 Flinn Scholar earning undergraduate degrees in both Economics (BA) and in Ecology and Evolutionary Biology (BS with Honors). Kevin's graduate degrees, both MS and PhD, are from the University of Wisconsin-Madison where he focused on evolutionary physiology using lizards as a model system. Kevin teaches many well-regarded UA courses, including introductory biology, herpetology, conservation biology, and vertebrate physiology. In 2012 he was recognized with the UA College of Science's Distinguished Early-Career Teaching Award. Kevin is also Director of Outreach Initiatives in the College of Science at the University of Arizona.

BIOSPHERE 2 - RESEARCH EXCELLENCE

Date: Monday, Oct. 28, 2019 11:00 – 12:00 pm Catalina 2

COURSE DESCRIPTION: Dr. Ruiz will present the importance of big science and the value of a large-scale instrument with the control and measurement capabilities of Biosphere 2. Discussion on how Biosphere 2 fits into the larger framework of University of Arizona excellence.

WHY ATTEND? Learn about the UA research facility at Biosphere 2.

PRESENTER BIOGRAPHY: **Dr. Joaquin Ruiz, Director, Biosphere 2 and Dean, UA College of Science. Vice President for Innovation, Dean of the College of Science, Thomas R. Brown Chair and Director of Biosphere 2, Professor of Geosciences, The University of Arizona.** He has served as Secretary of the Volcanology Section of the American Geophysical Union, Councillor of the Geological Society of America, and as a National Science Foundation Panel Member for the Instrumentation and Facilities Program and the Centers for Excellence in Science and Technology Program. He has served as Associate Editor of the *American Journal of Science, Geology, Revista, and Geofisica Internacional* of the Institute of Geology, UNAM. As a scientist with equal abilities in chemistry and in geology, Dr. Ruiz addresses many first-order problems in the Earth Sciences, such as the development of new isotope systems for studying ore deposits and the tectonic processes involved in the growth and evolution of Mexico. His research team addresses problems ranging from the origins of life to present-day climate change.

BIOSPHERE 2 - FATE OF CORAL ECOSYSTEMS

Date: Monday, Nov. 4, 2019 11:00 – 12:00 pm Catalina 2

COURSE DESCRIPTION: Presentation of the Biosphere 2 research ocean (B2O) and the fate of coral ecosystems around the world.

WHY ATTEND? Learn about the fate of oceans and coral ecosystems.

PRESENTER BIOGRAPHY: Katie Morgan is the Program Director of Biosphere 2 Ocean.

BIOSPHERE 2 FIELD TRIP - Science for the Future of Our Planet

Date: Monday, Nov. 11, 2019 11:00 – 12:30 pm – Meet at 10:45 am Biosphere 2, 32540 Biosphere 2 Road, Oracle, AZ

MEET AT Biosphere 2 in Oracle. WEAR COMFORTABLE SHOES. DRESS IN LAYERS.

ADMISSION FEES: \$19 - \$25

DIRECTIONS: Take Tangerine Rd. Left on Oracle (Rt. 77) to Biosphere 2 on right in Oracle.

PERSPECTIVE ON THE USA/MEXICAN BORDER

Date: Monday, Oct. 21, 2019 1:30 – 2:30 pm Catalina 2

COURSE DESCRIPTION: This talk will begin with some historic context for how the U.S. has dealt with both the U.S.-Mexico border and immigration. It will then fast forward to modern times and discuss several aspects of U.S. border policy and the impacts of that policy, beginning with the Clinton administration to the present time. The discussion will include the rise of migrant deaths, the increase in asylum seekers, the border wall impacts on communities, wildlife, economics and associated issues. It will describe many of the responses to these issues, focusing particularly on southern Arizona.

WHY ATTEND? The border has become a major national policy issue.

PRESENTER BIOGRAPHY: Dinah Bear, JD, served for 25 years as chief attorney for the President's Council on Environmental Quality within the Executive Office of the President. She works on environmental work and also Chairs Humane Borders, a nonprofit charity that works to prevent migrant deaths. Since moving to Tucson, Arizona in 2011, Ms. Bear has continued to work in the environmental field in a variety of capacities, with a special focus on issues affecting the borderlands. She chairs Humane Borders, a nonprofit organization, focused on saving lives in the desert and has been working to restore the rule of law and oppose the construction of border walls since 2008. Ms. Bear received a Bachelors in Journalism from the University of Missouri at Columbia in 1974, and graduated from McGeorge School of Law, Sacramento, California, in 1977. She has been admitted to practice by the District of Columbia Bar, State Bar of California (inactive) and the U.S. Supreme Court.

BIRD MIGRATION – NATURE'S INCREDIBLE EVENT

Date: Monday, Oct. 28, 2019 1:30 – 2:30 pm Catalina 2

COURSE DESCRIPTION: Many birds migrate imaginably long journeys. How do they do it, what are the obstacles they encounter, and where do they go? Explore their world of flight and the mysteries we have yet to solve about migration.

WHY ATTEND? Birds are a vital part of our lives and understanding how they *live and survive is fascinating.*

PRESENTER BIOGRAPHY: Cynthia Pruett, a retired executive from IBM, is engaged in working for the protection of birds and wildlife in our fast-changing world as a board member of both Tucson Audubon and National Audubon. She also supports the advancement of women studying engineering at her alma mater with a scholarship and was honored in November, 2018 with the President's Medal for Lifetime Achievement at New Jersey Institute of Technology.

TUESDAYS

TITAN MISSILE MUSEUM & FIELD TRIP

Date: Tuesday, Oct. 22 and 29, 2019 10:30 – 12:00 pm Catalina 2 and Titan Missile Museum

COURSE DESCRIPTION: The University of Arizona Graduate String Quartet will perform a selection of contrasting works from their current repertoire.

WHY ATTEND? We hope to provide an engaging performance as well as to broaden your understanding and appreciation for classical string quartets.

PRESENTER BIOGRAPHY: The award-winning **University of Arizona Graduate String Quartet** consists of an internationally diverse group of performers. All current graduate students, they hold principal positions in the university's orchestra. Along with their quartet duties, each member is an active part of the Tucson community, teaching privately and volunteering at various Tucson schools.

UA – SEARCHING FOR CERTAINTY 2019 LECTURES - CLIMATE AND THE DEEP BLUE SEA

Date: Tuesday, Nov. 5, 2019 10:30 – 12:00 pm Catalina 2

COURSE DESCRIPTION: Global warming is really ocean warming, and we measure it directly with an array of floating robots. Earth system science has transformed our ability to measure and model heat and carbon changes in the atmosphere and ocean.

WHY ATTEND? Learn about the most recent research and facts on climate and oceans.

PRESENTER BIOGRAPHY: **Joellen Russell is an Associate Professor of Geosciences at the UA College of Science and is the Thomas R. Brown Distinguished Chair**

FBI - ELDER JUSTICE AND PROTECTION

Date: Tuesday, Nov. 5, 2019 1:30 – 2:30 pm Catalina 2

COURSE DESCRIPTION: To inform attendees about the Elder Justice Initiative and provide information regarding financial exploitation and scams targeting the elderly.

We will provide pamphlets on the following topics:

1. Facts about Elder Abuse
2. Facts about Financial Scams
3. Financial Exploitation: Learn how to Protect Yourself

WHY ATTEND? To educate senior citizens in our community about financial exploitation.

PRESENTER BIOGRAPHY: **Special Agent, Alisha Anderson** has been with the Federal Bureau of Investigation for 20 years. She is currently assigned to work Complex Financial Crimes and focuses on the Elder Justice Initiative.

UA – SEARCHING FOR CERTAINTY 2019 LECTURES - THE MIND/BODY DIALOGUE

The organs of the body and the brain are in a constant conversation. Recently we learned that this conversation is bidirectional. It is widely accepted that thoughts and feelings cause changes in the body, but we are just starting to understand how changes in the body influence the mind. Health and disease can be better understood through the exchange of biological signals between the brain and the body.

Date: Tuesday, Nov. 12, 2019 10:30 - 12:00 pm Catalina 2

WHY ATTEND? Learn about the conversation between the body and the brain.

PRESENTER BIOGRAPHY: **Katalin Gothard is a professor of Physiology and Neuroscience at the UA College of Medicine.**

UA FRED FOX GRADUATE WOODWIND QUINTET

Date: Tuesday, Nov. 12, 2019

1:30 – 2:30 pm

Catalina 2

COURSE DESCRIPTION: The Fred Fox Graduate Wind Quintet presents a program of classical, romantic, and 20th century works for Wind Quintet.

WHY ATTEND? Come hear these talented young people play beautiful wind chamber music.

PRESENTER BIOGRAPHY: The Fred Fox Graduate Wind Quintet is the premier student ensemble at the University of Arizona. Comprised of Master level students from all over the world, each iteration of the ensemble has gone on to succeed in the nation's finest chamber music competition.

WEDNESDAYS

UA – SEARCHING FOR CERTAINTY 2019 LECTURES - THERE IS NO CERTAINTY

Date: Wednesday, Oct. 23, 2019

10:30 – 12:00 pm

Catalina 2

COURSE DESCRIPTION: Not every scientific study gets the answer right. How much should we rely on mining Big Data, which gives less reliable answers than gold-standard experiments? Are randomized experiments too difficult, expensive or unethical to conduct? Or does the human desire for certainty predispose us to an irrational dislike of randomized experiments, one that might be holding science back?

WHY ATTEND? Learn about mining Big Data and randomized experiments.

PRESENTER BIOGRAPHY: **Joanna Masel is a Professor of Ecology and Evolutionary Biology at the UA College of Science.**

GREAT DECISIONS – DECODING US AND CHINA TRADE

Date: Wednesday, Oct. 23, 2019

1:30 – 3:00 pm

Catalina 2

COURSE DESCRIPTION: Read Chapter 5 of the Foreign Policy Association's Great Decisions for 2019 before class and be ready to discuss trade between China and the USA. Is there a case for the shrinking iPhone? Do tariffs inevitably kill jobs? What can be done to solve these problems? Michael Bohon will moderate discussions in a civil manner with one person talking at a time, showing respect for each participant. **Order Great Decisions book for \$28 and pay for it when you register for Fall classes online.**

WHY ATTEND? Learn about the complex problems of trade.

PRESENTER BIOGRAPHY: **Michael Bohon, CPSM, C.P.M. CMRP,** will lead the discussion on this timely topic. He worked in the supply chain management field in three industries. He practiced the skill of negotiation for his employers and clients resulting in total savings in eight figures. Having studied at the Harvard Program on Negotiation, he has been an instructor of negotiation practices for 20 years.

UA – SEARCHING FOR CERTAINTY 2019 LECTURES - UNDERSTANDING THE UNSEEN UNIVERSE

Date: Wednesday, Oct. 30, 2019

10:30 – 12:00 pm

Catalina 2

COURSE DESCRIPTION: Astronomical observations constantly grapple with the unseen. More powerful telescopes and bigger computers lead to discoveries but also present us with enigmas like dark energy, dark matter, black holes, big bang, and perhaps even a Planet Nine, none of which are directly observable. The paradigm will continue to evolve as new evidence comes into light.

WHY ATTEND? Learn about the unseen universe.

PRESENTER BIOGRAPHY: **Feryal Ozel is a Professor of Astronomy and Physics at the UA College of Science**

GREAT DECISIONS – CYBER CONFLICTS AND GEOPOLITICS

Date: **Wednesday, Oct. 30, 2019**

1:30 – 3:00 pm

Catalina 2

COURSE DESCRIPTION: Read Chapter 6 of the Foreign Policy Association's Great Decisions for 2019 before class and be ready to discuss cyber conflict and geopolitics. Discussion on how to understand technology-based geopolitical pivots? What is a cyber pivot? Joan Drucker will moderate discussions in a civil manner with one person talking at a time, showing respect for each participant. **Order Great Decisions book for \$28 and pay for it when you register for Fall classes online.**

WHY ATTEND? Learn about cyber conflict and geopolitics.

PRESENTER BIOGRAPHY: **Joan Drucker** works with international corporations and works as an international business consultant.

UA - SEARCHING FOR CERTAINTY 2019 LECTURES - MICROBES SHAPING OUR LIVES

Date: **Wednesday, Nov. 6, 2019**

10:30 – 12:00 pm

Catalina 2

COURSE DESCRIPTION: Microbes have been traditionally seen as foes that need to be eliminated. Now we are realizing that the millions of microbes we harbor are essential for our health and influence virtually all our characteristics: our immunity and our blood pressure, our weight and our cognition and possibly even our mood. The discovery of the microbial world has just begun but is already revolutionizing biology and medicine.

WHY ATTEND? Learn about the microbes in you and our world.

PRESENTER BIOGRAPHY: **Donata Vercelli is a UA Professor, Cellular and Molecular Medicine at the UA College of Medicine.**

GREAT DECISIONS – THE US AND MEXICO: PARTNERSHIP TESTED

Date: **Wednesday, Nov. 6, 2019**

1:30 – 3:00 pm

Catalina 2

COURSE DESCRIPTION: Read Chapter 7 of the Foreign Policy Association's Great Decisions for 2019 before class and be ready to discuss NAFTA and the lack of immigration reform, political blockage under Obama, a binational war on drugs, and a new political era with Trump and Lopez Obrador. Bill Gilchrist will moderate discussions in a civil manner with one person talking at a time, showing respect for each participant. **Order Great Decisions book for \$28 and pay for it when you register for Fall classes online.**

WHY ATTEND? Learn about the testing of the US and Mexico partnership.

PRESENTER BIOGRAPHY: **Bill Gilchrist** is a Lifelong Learning in Retirement member.

UA - SEARCHING FOR CERTAINTY 2019 LECTURES - CAN INTELLIGENCE BE MEASURED?

Date: **Wednesday, Nov. 13, 2019**

10:30 – 12:00 pm

Catalina 2

COURSE DESCRIPTION: Is 'intelligence' a set of decentralized, independent problem-solving modules, or a singular, generalized skill of innovation? Much about the workings of the mind, especially the minds of others, is not intuitive and thus understanding it requires strict scientific approaches. Controversies abound about the how complex, and how big, a brain needs to be to have intelligence emerge.

WHY ATTEND? Learn the latest information on human intelligence.

PRESENTER BIOGRAPHY: **Anna Dornhaus is a Professor of Ecology and Evolutionary Biology at the UA College of Science.**

GREAT DECISIONS – THE STATE OF THE STATE DEPARTMENT AND AMERICAN DIPLOMACY

Date: Wednesday, Nov. 13, 2019 1:30 – 3:00 pm

Catalina 2

COURSE DESCRIPTION: Read Chapter 8 of the Foreign Policy Association's Great Decisions for 2019 before class and be ready to discuss the Trump era in American diplomacy, the State Department's place in American history, and the mission and value of the State Department. William Christiansen will moderate discussions in a civil manner with one person talking at a time, showing respect for each participant. **Order Great Decisions book for \$28 and pay for it when you register for Fall classes online.**

WHY ATTEND? Learn about the relevance of the State Department in American Diplomacy.

PRESENTER BIOGRAPHY: **Bill Christiansen** is a member of the Lifelong Learning Board of Directors. He is a retired librarian.